
Appendix E

Process

Parameters

Appendix E. Process Parameters

The HD Trial Burn and Shakedown will establish the permitted feed rate of HD but will not change the existing process parameter limits. The Trial Burn will demonstrate that HD can be treated IAW the existing permit limits including the process parameters below.

1. Group A Parameters. These parameters are related to waste destruction and will be parameters monitored continuously as part of the AWFCO System. When a Group A parameter is exceeded, the AWFCO System will immediately stop hazardous materials from being processed through the MPF

a. Maximum HW Feed Rates.

(1) Demonstrate that the proposed HD feed rates can be achieved while meeting the RCRA standards and part B permit conditions.

(2) Base the final approved Permit limit for agent H, HD, and HT on the demonstrated feed rate (arithmetic mean of three runs).

b. Maximum PCC Temperature, Zone 1 (Tag No. TI-205) and Zone 2 (Tag No. TI-207), and SCC Temperature, Zone 1 (Tag No. TI-202) and Zone 2 (Tag No. TI-201). The maximum combustion chamber temperature limits will control the emissions of metals from the PAS stack.

c. Minimum PCC Temperature, Zone 1 (Tag No. TI-205) and Zone 2 (Tag No. TI-207), and SCC Temperature, Zone 1 (Tag No. TI-202) and Zone 2 (Tag No. TI-201). The minimum PCC and SCC temperature limits are required to insure the HD incineration is consistent with the minimum DRE standard.

d. Minimum Venturi Scrubber Differential Pressure (Tag No. PDT-001). This parameter is related to particulate removal efficiency.

e. Minimum Venturi Scrubber Liquid Flow (Tag No. FT-001). This parameter is related to particulate removal efficiency.

f. Minimum Acid Gas (Packed Bed) Scrubber Liquid Flow (Tag No. FT/FE-002). This parameter is related to HCl / Cl₂ removal and to a lesser degree to particulate removal efficiency.

g. Minimum Venturi Scrubber Brine pH (Tag No. AI-4A and AI-4B). This parameter is related to acid gas removal efficiency.

h. Minimum Acid Gas Scrubber Liquid pH (Tag No. AI-3A and AI-3B). This parameter is related to acid gas removal efficiency.

i. Minimum O₂ Concentration in the Stack (Tag No. AI-19A). The PCC and SCC will be operated under oxidative conditions.

j. Maximum CO Concentration in the Stack (Tag No. AI-19B)

(1) Performance standard of 100 ppm_{dv} corrected to 7% O₂ with a 60-minute rolling average, for PIC control.

(2) Demonstrate compliance with this performance standard by controlling the CO concentration in the stack gas below this limit during all Trial Run Runs.

k. Maximum Combustion Gas Velocity (Tag No. FI-005). Limit is related to residence time in the combustion chambers, and destruction and removal efficiency.

l. Maximum MPF Draft Pressure (Tag Nos. PDI-503, and PDI-504)

(1) Draft Pressure based on EPA guidance to control fugitive emissions. Maintain PCC pressure slightly below atmospheric pressure to control fugitive emissions for the MPF.

(2) The AWFCO limit for this parameter is less than atmospheric

2. Group B Parameters. Group B parameters do not require continuous monitoring, and are not interlocked with the AWFCO system.

a. Maximum Chlorine Feed Rate. The chlorine feed rate is related to metals emissions from the PAS stack.

b. Maximum ash feed rate. Related to the RCRA emission standard of 0.08 gr/dscf, corrected to 7% O₂.

c. Expected risk-based Group B Permit limits are:

(1) Maximum PCDD and PCDF Emissions. Related to feed rates of organics and chlorine.

(2) Maximum Metal Feed Rate Limits, related to emissions of HRA metals.

d. Maximum Ash Feed Rate.

1 **3. Group C Parameters.** These parameters are based on EPA guidance, equipment
2 manufacturer's design and operating specifications, operational safety considerations,
3 and good engineering practices. Group C parameters are set independently of the
4 Trial-Burn-demonstrated parameters and include parameters that are monitored both
5 continuously and periodically. Depending on the particular Group C parameter, a Group
6 C parameter may or may not be an AWFCO parameter.

7
8 a. CEMS Operation

9
10 (1) Operate CEMS while the MPF System is processing wastes.

11
12 (2) Trigger an AWFCO when the control system detects any loss of signal from
13 CEMS instruments or when any Permit limits for CO or O₂ are exceeded.

14
15 b. Maximum Venturi Exit Temperature (Tag No. TI-21)

16
17 (1) The maximum temperature limit is 190° F in order to protect the temperature-
18 sensitive packing materials in the Acid Gas Scrubbing System.

19
20 (2) Stop Waste feed to the MPF PAS and activate emergency water cool down of
21 the Acid Gas Scrubber when the Venturi exit temperature exceeds the maximum
22 limit.

23
24 **4. Weekly Waste Feed Cutoff Interlock List.** The CMO will test interlocks using the
25 following list, Table E-1.
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2
3
Table E-1. Weekly Waste Feed Cutoff Interlock List

WEEKLY MPF WASTE FEED CUTOFF INTERLOCK LIST

Page 1

DATE: _____

**THE CHECKING OF WASTE FEED CUTOFF INTERLOCKS MAY CAUSE
THE LOSS OF BURNERS IN THE MPF, ASSURE NO HAZARDOUS
MATERIAL IS BEING PROCESS DURING INTERLOCK CHECKS.**

REMEMBER: RESET ALL VALUES TO PROPER SETTINGS

verified by: CMO QA/QC

1. (SCC) LOW TEMP. TI-202-AL _____

SET ALARM POINT BELOW ACTUAL TEMP.

ALARM ON WASTE FEED CUTOFF MENU SHOULD GO OUT

B3/70 (B3/19) SHOULD BE SATISFIED

LOW LIMIT = 1450 deg.

2. (SCC) HIGH TEMP. TI-202-AL _____

SET ALARM POINT BELOW ACTUAL TEMP.

ALARM ON WASTE FEED CUTOFF MENU SHOULD GO ON

B3/71 (B3/19) SHOULD NOT BE SATISFIED

HIGH LIMIT. = 2175 deg

3. PCC (VOL.) LOW TEMP. TI-205-AL _____

SET ALARM POINT BELOW ACTUAL TEMP.

ALARM ON WASTE FEED CUTOFF MENU SHOULD GO OUT

B3/72 (B3/19) SHOULD BE SATISFIED

LOW LIMIT = 950 deg

4. PCC (VOL.) HIGH TEMP. TI-205-AL _____

SET ALARM POINT TO BELOW ACTUAL TEMP.

ALARM ON WASTE FEED CUTOFF MENU SHOULD GO ON

B3/73 (B3/19) SHOULD NOT BE SATISFIED

1 **Table E-1. Weekly Waste Feed Cutoff Interlock List (Continued)**

2 **WEEKLY MPF WASTE FEED CUTOFF INTERLOCK LIST**

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5. VENTURI TEMPERATURE HIGH TI-21 _____

SET ALARM POINT BELOW ACTUAL TEMP.

ALARM ON WASTE FEED CUTOFF MENU SHOULD COME ON

B3/77 VENTURI OFF GAS TEMP. HIGH WILL NOT BE SATISFIED

HIGH LIMIT = 190 deg.

6. VENTURI BRINE FLOW LOW FT-001-M _____

SET ALARM POINT BELOW ACTUAL FLOW

ALARM ON WASTE FEED CUTOFF MENU SHOULD GO OUT

B3/78 VENTURI BRINE LOW FLOW WILL BE SATISFIED

LOW LIMIT = 30 gpm

7. VENTURI PRESS. DROP PDI-001-M _____

SET ALARM POINT BELOW ACTUAL DP

ALARM ON WASTE FEED CUTOFF MENU SHOULD GO OUT

B3/76 VENTURI DP LOW WILL BE SATISFIED

LOW LIMIT = 36 inc.

8. CLEAR LI. FLOW LOW (PACK BED) FT-002-M _____

SET ALARM POINT BELOW ACTUAL FLOW

ALARM ON WASTE FEED CUTOFF MENU SHOULD GO OUT

B3/79 CLEAR LIQUOR FLOW LOW WILL BE SATISFIED

LOW LIMIT 150 g.p.m.

9. FURNACE LOW DRAFT PCC ZONE 1 PDI-503-M _____

SET ALARM POINT BELOW ACTUAL DRAFT

ALARM ON WASTE FEED CUTOFF MENU SHOULD GO OUT

B3/74 PCC ZONE 1 DRAFT LOW WILL BE SATISFIED

LOW LIMIT = .0 inwc

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Table E-1. Weekly Waste Feed Cutoff Interlock List (Continued)

WEEKLY MPF WASTE FEED CUTOFF INTERLOCK LIST

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10. AGENT MONITORING, ALARM ACAMS 15A, 15B, 15C, & 15D

HAVE MONITORING SET THE ACAMS 15A into ALARM
ALARM ON WASTE FEED CUTOFF MENU SHOULD GO ON

DO THE SAME FOR ADAMS 15B, 15C, & 15D
ALARM ON WASTE FEED CUTOFF MENU SHOULD GO ON
I:22/04 ACAMS ST. 15A, I:22/05 ACAMS ST. 15B, I:22/06 ACAMS ST. 15C,
I:22/07 ACAMS ST. 15D ON MPF STACK WILL NOT BE SATISFIED (B3/21)

11. AGENT MONITORING, ACAMS IN MALFUNCTION, STACK SAMPLING

HAVE MONITORING SET ACAMS CURRENTLY ON THE STACK SET TO
MALFUNCTION

ALARM ON WASTE FEED CUTOFF MENU SHOULD GO ON
B3/86 ACAMS STACK SAMPLING WILL NOT BE SATISFIED (B3/21)

12. AGENT MONITORING, ACAMS CYCLE CORRECT, STACK SAMPLING

HAVE MONITORING SET THE ACAMS CURRENTLY ON
THE STACK TO THE IMPROPER CYCLE
ALARM ON WASTE FEED CUTOFF MENU SHOULD GO ON
B3/86 ACAMS STACK SAMPLING WILL NOT BE SATISFIED (B3/21)
HIGH LIMIT = 180 sec. (VX), 110 sec. (GB & H)

13. HIGH CO 100 PPM @ 7% 1 hr. Ave. AI 19-B-M

HAVE MONITORING SET CO INTO ALARM
EPA COMPUTED ALARM ON WASTE FEED CUTOFF MENU WILL GO ON
N9:100/1 (B3/21) INPUT FROM EPA COMPUTER WILL NOT BE SATISFIED
HIGH LIMIT = 100 ppm @ 7% O₂, 1 hr. Ave.

1 **Table E-1. Weekly Waste Feed Cutoff Interlock List (Continued)**

2 **WEEKLY MPF WASTE FEED CUTOFF INTERLOCK LIST**

3 **Page 4**

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14. NORMAL O₂ > 3 % AND < 18% AI 19-A-M

HAVE MONITORING SET O₂ INTO ALARM <3%
AND >18%

EPA COMPUTER ALARM ON WASTE FEED CUTOFF MENU WILL GO ON
N9:100/1 (B3/22) INPUT FROM EPA COMPUTER WILL NOT BE SATISFIED
LOW LIMIT = 3%, HIGH LIMIT = 18%

15. STACK GAS FLOW HIGH FI-5

SET ALARM POINT BELOW ACTUAL FLOW

ALARM ON WASTE FEED CUTOFF MENU SHOULD GO ON
B3/75 STACK GAS FLOW HIGH WILL NOT BE SATISFIED
HIGH LIMIT = 10,000 scfm)

16. STACK GAS FLOW HIGH FI-5a

SET ALARM POINT BELOW ACTUAL FLOW

ALARM ON WASTE FEED CUTOFF MENU SHOULD GO ON
B3/81 STACK GAS FLOW HIGH WILL NOT BE SATISFIED
HIGH LIMIT = 13,000 acfm)

17. STACK GAS FLOW LOW FI-5a

SET ALARM POINT ABOVE ACTUAL FLOW

ALARM ON WASTE FEED CUTOFF MENU SHOULD GO ON
B3/80 STACK GAS FLOW HIGH WILL NOT BE SATISFIED
HIGH LIMIT = 6500 acfm)

18. SCRUBBER pH LOW AI-4

SET ALARM POINT ABOVE ACTUAL pH

ALARM ON WASTE FEED CUTOFF MENU SHOULD GO ON
B3/84 (B3/21) SCRUBBER pH LOW WILL NOT BE SATISFIED
LOW LIMIT = 7 pH

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Table E-1. Weekly Waste Feed Cutoff Interlock List (Continued)

WEEKLY MPF WASTE FEED CUTOFF INTERLOCK LIST

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19. CLEAR LIQUOR PH LOW AI-3

SET ALARM POINT ABOVE ACTUAL PH

ALARM ON WASTE FEED CUTOFF MENU SHOULD GO ON

B3/85 (B3/21) CLEAR LIQUOR PH LOW WILL NOT BE SATISFIED

LOW LIMIT = 8 pH

20. QUENCH BRINE FLOW FIC-3 + VENTURI BRINE FLOW FIC-1

WITH THE EPA COMPUTER ON LINE SLOWLY LOWER
THE SET POINT ON FIC-3 AND FIC-1 UNTIL TOTAL FLOW IS
UNDER 76 GPM EPA LIMIT

**THE QUENCH AND VENTURI BRINE FLOW ARE COMBINED BY THE EPA
COMPUTER. THE EPA COMPUTER, ALARM ON WASTE FEED CUTOFF MENU
SHOULD GO ON.**

N9:100/0 N9:100/1 EPA COMPUTER WASTE FEED PERMISSIVE WILL NOT BE
SATISFIED (3/21)

LOW LIMIT = 76 gpm..

21. (ONLY USED FOR TON CONTAINERS & TRASH BURNS)

VERIFY B3/22 INPUT ON O:014/14

(ZONE 1 INPUT DOOR DISABLE)

DATE. TIME START _____

DATE TIME FINISH _____

CMO _____ QC _____

CMO .WASTE FEED CUTOFF .MPF 12 June 2001